Met Office

NEWS

Temporary breaching of 1.5C in next five years?

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It's a 50:50 call says new Met Office study

A new study, led by the UK Met Office, has revealed a very strong likelihood that one of the next five years will be the warmest on record globally, beating the current record year of 2016.

The chance of at least one of the next five year's exceeding 1.5°C above pre-industrial levels is now about 50:50 (48%).

The *Global Annual to Decadal Climate Update* – produced with the World Meteorological Organization - also highlights a 93% chance that the five-year average global temperature for 2022-2026 will be higher than the average for the last five years (2017-2021).

Some of the report's key findings include:

- The annual mean global near-surface temperature for any year in the next five years is predicted to be between 1.1°C and 1.7°C higher than pre-industrial levels.
- The chance of at least one year exceeding 1.5°C above pre-industrial levels between 2022-2026 is about as likely as not (48%). However, there is only a very small chance (10%) of the five-year mean exceeding this threshold.
- The chance of at least one year in the next five years exceeding the current warmest year, 2016, is over 90%. The chance of the five-year mean for 2022-2026 being higher than the last five years (2017-2021) is also over 90%.

The annual update harnesses the expertise of international climate centres – coordinated by the Met Office - and the best prediction systems from leading climate prediction systems to produce actionable information for decision-makers. Last year's assessment indicated that there was a 40% chance of the temperature temporarily exceeding 1.5°C between 2021-2025.

Paris Agreement

Dr Leon Hermanson, of the Met Office, led today's report. He said: "Our latest climate predictions show that continued global temperature rise will continue, with an even chance that one of the years between 2022 and 2026 will exceed 1.5°C above pre-industrial levels. A single year of exceedance above 1.5°C does not mean we have breached the iconic threshold of the Paris Agreement, but it does reveal that we are edging ever closer to a situation where 1.5°C could be exceeded for an extended period."

In 2021, the global average temperature was 1.1 °C above the pre-industrial baseline, according to the provisional WMO report on the State of the Global Climate. The final report will be released on 18 May.

Back-to-back La Niña events at the start and end of 2021 had a cooling effect on global temperatures, but this is only temporary and does not reverse the long-term global warming trend. Any development of an El Niño event would immediately fuel temperatures, as it did in 2016, which is currently the warmest year on record.

The latest edition of the annual report – *WMO Global Annual to Decadal Climate Update* - has been produced by the Met Office for the World Meteorological Organization.

The findings of the annual update also includes:

▪ Predicted precipitation patterns for 2022 compared to the 1991-2020 average suggest an increased chance of drier conditions over southwestern Europe and southwestern North America and wetter conditions in northern Europe, the Sahel and Australia.

▪ Predicted precipitation patterns for the months May to September over 2022-2026 compared to the 1991-2020 average suggest an increased chance of wetter conditions in the Sahel, northern Europe, Alaska and northern Siberia, and drier conditions over the Amazon.

▪ The Arctic temperature anomaly (compared to the 1991-2020 average) is predicted to be more than three times as large as the global mean anomaly when averaged over the next five northern hemisphere winters.

▪ There is no signal for the El Niño Southern Oscillation for December-February 2022/23, nevertheless the Southern Oscillation Index is predicted to be positive in 2022, suggesting a predominance of La Niña characteristics during the year.

▪ Predicted precipitation patterns for the months November to March 2022/23-2026/27 compared to the 1991-2020 average are consistent with the patterns expected from climate warming.

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